University of North Georgia
College of Science and Mathematics
Department of Physics
PHYS 2212- Principles of Physics II- Spring 2019

"The noblest pleasure is the joy of understanding." -Leonardo da Vinci

General Information
Instructor: Dr. Nathan Harrison
Office: Strickland 209
Email: Standard UNG email address
Office Hours: See the pdf file of my schedule. Additional hours available by appointment.

Required Materials
Textbook: Physics for Scientists and Engineers 9th Edition w/ Webassign by Serway and Jewett
Scientific or graphing calculator, ruler, protractor, paper, writing utensil(s)
GitHub account
SageMath (Cloud account or your own installation)
Java JDK 1.8

Course Description
This is a calculusbased introduction to physics and is part of a two-semester Physics sequence that covers mechanics and electrodynamics. The prerequisites for this course are MATH 2460, PHYS 2211, and PHYS 2211L. The co-requisite is PHYS 2212 (lab). The lecture is three credits while the lab is one credit. (see the lab syllabus for more details)

Course Content
The first course of the sequence will cover mechanics and the second course of the sequence will cover electrodynamics. We will spend approximately 1-2 weeks on each chapter of the textbook and do a corresponding lab (see the lab syllabus for more details). The exact pace of the course will depend on the overall skill level of the class and is at the discretion of the instructor.

Expected Course Outcomes
The objective of the course is to have the student learn and be proficient in the application of the basic laws of physics. After having taken this course, the student should be able to:

1. interpret physical situations as stated in word problems
2. be able to identify the physical laws appropriate to the physical situation at hand
3. be able to use mathematics/physical law as a tool for predicting behavior of physical systems
4. be able to use computers/sensors as tools for experimental investigation of physical laws
5. be able to model physical systems in multiple representations, e.g. mathematically, pictorially, graphically, etc.
6. be able to use various technologies as tools for scientific endeavor

Means of Assessment and Grading Scheme

There will be several exams during the semester as well as several short quizzes. Exams will be announced at least one week in advance, quizzes may occasionally be unannounced. Homework assignments will be given on a fairly regular basis via WebAssign (check it regularly). The final exam is comprehensive and mandatory.

Average of quizzes and exams: 60%
WebAssign HW: 10%
Project: 10%
Instructor Evaluation/Oral Exam: 10%
Attendance: 5%
Participation: 5%

Homework counts as a relatively small fraction of the overall grade to discourage the use of Chegg (and similar sites), which has been shown to have negative effects on student performance. To further discourage Chegg, your homework grade will be divide by 0.9 (i.e. getting 90% of the homework correct will give you a 100% grade), but scores over 100% will not be given. This is so you can focus more on learning the material and less on finding shortcuts to maximize your grade. Attendance will be taken at the beginning of most classes. Arriving after attendance will count as an absence. Five absences will be excused.
Your participation grade will depend on acual participation such as asking question, answering questions, etc., not merely showing up.

Supplemental Syllabus

Please see https://ung.edu/academic-affairs/policies-and-guidelines/supplemental-syllabus.php for the following information:

1. Academic Exchange
2. Academic Integrity Policy
3. Academic Success Plan Program
4. Class Evaluations
5. Course Grades and Withdrawal Process
6. Disruptive Behavior Policy
7. Inclement Weather
8. Smoking Policy
9. Students with Disabilities

Additional Information

1. You will have to self-register with WebAssign in order to access the online homework. A "class key" is need to do this, it will be emailed to you during the first week of classes.

2. This syllabus may be adjusted if deemed necessary by the instructor.

3. See the university schedule for important dates such as drop deadlines, etc.